UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,285	01/10/2005	Soon-Tae Ahn	SAMH100001000	8520

22891 7590 10/03/2007

LAW OFFICE OF DELIO & PETERSON, LLC.
121 WHITNEY AVENUE
3RD FLLOR
NEW HAVEN, CT 06510

EXAMINER	
IP, SIKYIN	

ART UNIT	PAPER NUMBER
1742	

MAIL DATE	DELIVERY MODE
10/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/521,285
Filing Date: January 10, 2005
Appellant(s): AHN, SOON-TAE

Peter W. Peterson
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed June 29, 2007 appealing from the Office action mailed October 19, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

The amendment after final rejection filed on December 12, 2006 has been entered.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4 are rejected under 35 U.S.C. § 103 as being unpatentable over USP 6547890 to Kanisawa et al.

Kanisawa discloses alloy steel composition, hardness (Hv 250 to 700 equals about 793 to 2206 MPa), martensite structure, and spheroidizing (col. 2, lines 19-67 and Table 3). Therefore, when prior art compounds essentially "bracketing" the claimed compounds in structural similarity are all known, one of ordinary skill in the art would clearly be motivated to make those claimed compounds in searching for new products in the expectation that compounds similar in structure will have similar properties. In re

Gyurik, 596 F.2d 1012, 1018, 201 USPQ 552, 557 (CCPA 1979); See In re May, 574 F.2d 1082, 1094, 197 USPQ 601, 611 (CCPA 1978) and In re Hoch, 57 CCPA 1292, 1296, 428 F.2d 1341, 1344, 166 USPQ 406, 409 (1970). As stated in In re Peterson, 315 F.3d 1325, 1329-30, 65 USPQ2d 1379, 1382 (Fed. Cir. 2003), that "A prima facie case of obviousness typically exists when the ranges of a claimed composition overlap the ranges disclosed in the prior art". Therefore, it would have been obvious to one of ordinary skill in the art to select any portion of range, including the claimed range, from the broader range disclosed in a prior art reference because the prior art reference finds that the prior art composition in the entire disclosed range has a suitable utility. Also see MPEP § 2131.03 and § 2123.

(10) Response to Argument

Appellant's arguments filed June 29, 2007 have been fully considered but they are not persuasive.

Appealed Claim 1 and teaching of Kanisawa are listed in Table below:

	Appeal Claim 1 Wt.%	USP 890 Col. 2, lines 20-55 and Table 3
C	0.1-0.5	0.1-0.5
Si	<=1	0.01-0.5
Mn	0.2-2.5	0.3-1.5
P	<=0.03	

S	<=0.03	
Cr Mo B Claim 2, Select 1 or more	0.05-2.0 0.05-1.5 0.0003-0.0050	0.2-2.0 0.1-1.0 <=0.005
Fe	bal	Bal0.1-1.0
Tensile strength	700-1300 MPa	793-2206 MPa
% carbide	30%<=	80-95% in Table 3

Kanisawa, column 3, lines 56-63. While Kanisawa discusses both the martensite/bainite structure in the same sentence as spheroidizing annealing, the reference to the latter is a separate, later process that transforms and eliminates the martensite/bainite structure, and does not provide both martensite and spheroidized carbides in the same

Appellant argues that " structure at the same time. ~~The Kanisawa patent provides a hot rolled and tempered~~ " But, first appellant failed to substantiate his position by factual evidence that formed martensite in Kanisawa is being transformed and eliminated during and/or after spheroidizing annealing and martensite is not co-exist with spheroidizing carbides. Second, there is no requirement that co-exist features must be described in the same sentence. Third, the instant claimed carbide is transformed from martensite – appealed claim 1,

~~Mpa and~~ a structure of a martensite base and carbides precipitated therefrom, with a percent spheroidization of carbides not less than 30%.

and page 6 of instant specification

spheroidization of carbides of the wire material is shown in FIG. 1. Depending on shapes of carbides deposited from the martensite base, cold folding characteristics are varied. In particular, when the percent spheroidization is not less than 30%, critical compressibility as a parameter showing cold forging characteristics, is drastically increased to 40% or more. Thereby, excellent cold forging characteristics are exhibited.

Appellant argues that

~~rolled material. See Kanisawa, column 6, line 52 through column 8, line 16~~. There is no martensite disclosed as remaining after annealing.

" But, first appealed claim 1 does not recite amount of remaining martensite

~~Mpa and~~ a structure of a martensite base and carbides precipitated therefrom, with a percent spheroidization of carbides not less than 30%.

. Second, contrarily to instant claim that martensite is used as source of carbides, Kanisawa uses martensite to distribute carbon

2

~~to the spheroidizing annealing~~, it was important to homogeneously distribute carbon in the steel structure before the spheroidizing annealing so as to reduce the distance of carbon diffusion during the spheroidizing annealing, and that a bainite or a martensite structure containing evenly distributed carbon was the most suitable for the purpose.

. Third, appellant fails to show by factual evidence that the amount of martensite in steel wire of Kanisawa is zero.

Appellant argues that

~~In summary,~~ Kanisawa teaches that it is advantageous to begin with a martensite or bainite as rolled wire structure, before spheroidizing annealing the wire. Kanisawa never discloses a quenched and tempered wire product in which martensite and spheroidized carbides are present in the material at the same time.

" But, Kanisawa does not disclose the amount of martensite in the final product is zero.

Appellant's argument in paragraph bridging pages 6-7 of instant brief is noted. But, the Gyurik cited by appellant is misplaced because instant claimed wire composition, properties, and microstructures are overlapped by Kanisawa.

Appellant's argument in paragraph bridging pages 7-8 of instant brief is noted. But, first appealed claim 1 does not recite amount of remaining martensite

~~tensile and~~ a structure of a martensite base and carbides precipitated therefrom, with a percent spheroidization of carbides not less than 30%.

. Second, contrarily to instant claim that martensite is used as source of carbides, Kanisawa uses martensite to distribute carbon

2

~~to the spheroidizing annealing,~~ it was important to homogeneously distribute carbon in the steel structure before the spheroidizing annealing so as to reduce the distance of carbon diffusion during the spheroidizing annealing, and that a bainite or a martensite structure containing evenly distributed carbon was the most suitable for the purpose.

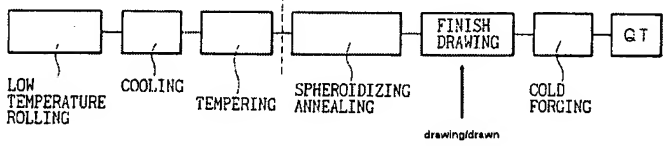
. Third, appellant fails to show by factual evidence that the amount of martensite in steel wire of Kanisawa is zero.

Appellant argues that

Dependent claims 3 and 4 additionally recite that the quenched and tempered steel wire of claims 1 and 2, respectively, is drawn. The Examiner has not established *prima facie* obviousness since Kanisawa clearly teaches away from drawing the wire disclosed therein. ~~As stated in Kanisawa,~~

" First, the invention defined in a product-by-process claim is a product, not a process. Second, appellant's attention is directed to Figure 1 b of Kanisawa pasted below:

Fig. 1(b)



BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1(a) and FIG. 1(b) are diagrams showing the manufacturing processes of cold forged machine structural components: FIG. 1(a) shows conventional processes and FIG. 1(b) the processes according to the present invention.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

S. Ip
September 26, 2007

SIKYIN IP
PRIMARY EXAMINER
ART UNIT 1742

Conferees:

Romulo Delmendo, Appeals Specialist

Roy King

ROY KING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

Peter W. Peterson
DeLIO & PETERSON, LLC
121 Whitney Avenue
New Haven, CT 06510-1241